

WHEN PUSH COMES TO SHOVE

BENCHMARKS and TASKS

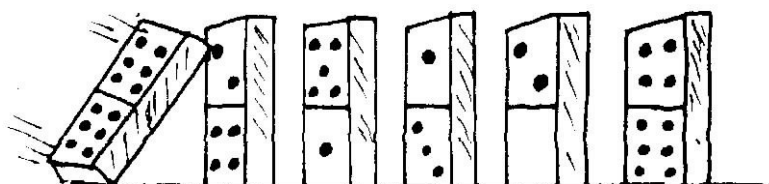
SC.C.1.1.2 The student knows that there is a relationship between force and motion.

SC.C.2.1.1 The student knows that one way to change how something is moving is to give it a push or a pull.

- The student changes the position and motion of objects by pushing or pulling on them.
- The student compares and contrasts many different ways of moving, such as straight, zigzag, round and round, back and forth, and fast and slow.

KEY QUESTION

How can one object move another?



MATERIALS

Teacher

2 dominoes

Per group

dominoes or hexagonal pattern blocks

Per class

small ball

TEACHING TIPS

Caution students not to interrupt, touch, or disturb other students' dominoes.

ENGAGE

1. Gather students in a circle near a table with dominoes. Place one domino standing up at one end of the table and another domino standing up at the other end of the table.
2. Ask: *If one domino is pushed, will it knock the other domino down? What could we do to make the other domino fall down without moving the dominoes closer together?* Try students' suggestions.

EXPLORE

1. Divide the class into small groups and distribute dominoes.
2. Ask: *How can you set up the dominoes so that they can move each other?*
3. Give students the opportunity to experiment with the dominoes until they can arrange them in such a way that they move each other.

PLAIN

Ask:

How did the dominoes move each other?

Were the movements pushes or pulls?

How did you start the dominoes moving?

EXTEND/APPLY

1. Allow students additional time to continue exploring the “domino effect” using various lines other than a straight line (spirals, circles, zigzag, etc.) that can demonstrate the motion caused by pushing.
2. Have students sit in a large circle. Ask one student to roll a small ball toward another student. Point out that he/she is “pushing” the ball. The student receiving the ball changes the direction and speed of the ball by pushing it to a different student. Relate this activity to a sport that uses a ball (e.g., baseball, soccer, tennis).

ASSESSMENT

Have students recreate the domino activity using hexagonal pattern blocks and have the students explain why the pattern blocks moved.